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ABSTRACT

The aim of this study was to assess the interrelations of social support and school attitudes as predictors of achievement across a culturally and economically diverse sample of preadolescent children. Parent and peer support were assessed along with parent and peer attitudes toward school. Achievement indices were the child's own attitudes, grades, Stanford Achievement scores, and teacher ratings of school adaptation and competence. Of particular interest was the extent to which support and attitudes interact with a number of potentially significant demographic factors, including grade level, gender, ethnicity, and school economic level. Findings indicated that parent support and school attitudes were associated with most achievement indices. Friends' attitudes were predictive of children's attitudes, school adaptation, and academic competence. Support from friends was related to higher achievement for low-income and minority children. The findings affirm the importance of the child's social ecology to school performance and suggest that intervention strategies be targeted in this direction. (Contains 14 references.) (EV)

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THE SOCIAL ECOLOGY OF ACHIEVEMENT IN PRE-ADOLESCENTS: SOCIAL SUPPORT AND SCHOOL ATTITUDES[1]

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Abstract

Parental and peer social support and school attitudes were assessed as predictors of achievement in a culturally and economically diverse sample of preadolescent children. Parent support and school attitudes were associated with most achievement indices. Friend attitudes were predictive of children's attitudes, school adaptation, and academic competence. Support from friends was related to higher achievement for low-income and minority children. The findings affirm the importance of the child's social ecology to school performance and suggest that intervention strategies be targeted in this direction.

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Objectives

The aim of this study was to assess the interrelations of social support and school attitudes as predictors of achievement across a culturally and economically diverse sample of pre-adolescent children. Parent and peer support were assessed along with parent and peer attitudes toward school. Achievement indices were the child's own attitudes, grades, Stanford Achievement scores, and teacher ratings of school adaptation and competence. Of particular interest was the extent to which support and attitudes interact with a number of potentially significant demographic factors, including grade level, gender, ethnicity, and school economic level.

Theoretical Framework

Theoretically, the present study was expected to increase our understanding of the functioning of the child's support system as it relates to school outcomes. Social support from both parents and peers is related positively to emotional adjustment (Sandler, Miller, Short, & Wolchik, 1989), but the relation between support and achievement is more complex (Wentzel, 1998). For adolescents, both parent and peer support have been related positively to achievement, but negative effects of peer support on academic functioning have been reported for Hispanic- and African-American adolescents (Cauce, Felner, & Primavera, 1982; Steinberg, Dornbusch, & Brown, 1992). These effects have been viewed as reflecting less favorable attitudes toward school among adolescent peers in these groups (Ogbu, 1986; Steinberg et al., 1992). Considerably less is known about the dynamics of family versus peer support, school attitudes, and achievement in the pre-adolescent years (Kindermann, McCollam, & Gibson, 1996). The pre-adolescent period is likely to be especially important as peer relations emerge as

significant co-determinants (along with family) of children's social and academic development (Rubin, Bukowski, & Parker, 1998). The focus of the present research was on the joint contribution of family and peer support and attitudinal factors to achievement in an economically diverse sample of African-American, European-American, and Hispanic-American children.

Method

Sample

Participants included 782 students (51% female) in grades 4 (N = 394) and 6 (N = 388) attending eight public elementary schools. Of these schools, four were located in economically distressed areas and four were located in middle income areas. The children in the sample represented three ethnic groups (31% African-American, 29% European-American and 40% Hispanic-American). Letters of explanation, with assurances of confidentiality, and consent forms were sent home to parents or guardians of all students in the relevant grades. Selection of participants was random from among students whose parents or guardians returned signed consent forms.

Procedure

Children were interviewed individually at school to obtain information about their social support networks. Interviewers were matched to the child by ethnicity. Teachers rated the child's school adaptation and academic competence. Child and peer school attitude data were obtained in classroom administrations. Parents completed school attitude surveys at home. Grade reports and Stanford Achievement Test Scores were obtained from centralized school records.

Measures

Social Support Measures. Support information was obtained via the children's convoy

mapping procedure employed by Levitt, Guacci-Franco, & Levitt (1993). After arranging their social network members in a diagram, children were asked to identify persons who provided each of six support functions representing standard domains (affective, self worth, and instrumental support). Sample items are "Are there people you talk to about things that are really important to you?" and "Are there people who help you with homework or other work that you do for school?". The support measures employed in the analyses were the total amount of support provided by parents and friends respectively.

Attitude Measures. The 22-item School Attitude Scale was adapted from scales employed by Estrada (1996) and Ford (1996) with ethnically diverse populations. Parallel items were included for children and parents. Sample items are "Some kids are not so sure they will go to college, but other kids are pretty sure they will go to college" and "Some kids think that doing well in school is important for getting ahead in life, but other kids think that how far they get in life doesn't have much to do with school." Participants first decide which description is most like themselves and then whether the description is "Really True for Me" or just "Sort of True for Me". Responses range from 1 to 4, with higher numbers indicating more positive attitudes. Parent and friend expressed attitude scores were aggregated with items assessing children's perceptions of their parents' and friends' attitudes.

Achievement Measures. The teacher rated school adaptation scale was developed by Alexander et al. (1993). The academic competence rating consisted of two items from the Child Behavior Checklist-Teacher Version (Edelbroch & Achenbach, 1984) assessing "how hard the child is trying" and "how much the child is learning". Reading and math grades and Stanford scores were combined to form general GPA and SAT scores.

Results and Conclusions

All measures employed in the analyses had good psychometric characteristics. The relations of family and peer support and school attitudes to achievement were assessed in a series of multiple regression analyses. Criterion variables were the child's own school attitude score, GPA, SAT score, and teacher rated school adaptation and competence. Predictors were grade level, gender, ethnicity, school economic level, parent support, friend support, and parent and friend school attitudes. Multiplicative terms representing the interactions of the support and attitude measures with grade, sex, ethnicity, and school level were entered into the regressions following the main effect predictors (Cohen & Cohen, 1983). The results of these analyses can be seen in Table 1. Additional analyses included the child's school attitude score as a predictor of the achievement indices.

All of the regressions were significant (p's $< .0001$), with main effect predictors accounting for 35% of the variance in school attitudes, 24% in SAT scores, 18% in GPA, 13% in school adaptation, and 17% in academic competence. Including the child's school attitude score as a predictor increased these percentages to 26% for SAT scores, 25% for GPA, 15% for school adaptation, and 23% for competence. Thus, parent support, parental attitudes, and especially peer attitudes were predictive of the child's own attitudes toward school and these variables were related indirectly to the remaining achievement indices through their association with the child's attitudes. Parent support and attitudes were also related directly to most of the achievement indices and friend support was related to GPA. Friend attitudes related directly to teacher-rated adaptation and competence, but not to grades or test scores, suggesting that friend attitudes are particularly important with regard to the child's classroom behavior.

Several significant interactions suggest that effects were not uniform across gender,

grade, ethnicity, and school economic level. One noteworthy set of findings is that parental support was associated with the achievement measures particularly for middle income schools, whereas friend support was related more strongly to school adaptation and competence in low income schools. Support from friends also appeared to be especially important for African-American and Hispanic-American children. In contrast to past studies of adolescents, however, friend support related *positively* to achievement for the minority and low income students in this pre-adolescent sample. At the same time, school attitudes were less favorable for 6th graders than for 4th graders-- a trend that is likely to continue as children make the transition to middle school (Eccles, Wigfield, & Schiefele, 1998). Thus, the greater salience of peer support for minority and low income children in the pre-adolescent period may put these children at risk for negative school outcomes in adolescence. Longitudinal analyses are needed, however, to map these effects over time.

These findings illustrate the importance of considering the social ecology of the child in studies of achievement attitudes and behavior. The results add to our understanding of the complex set of noncurricular factors that impact on educational attainment and potentially provide important information with respect to the targeting of intervention strategies.

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Table 1. Predictors of Achievement in Pre-Adolescent Children

Predictors	Child's Attitude		SAT Score		GPA		School Adaptation		Academic Competence	
	b	r^2	*b*	r^2	*b*	r^2	*b*	r^2	*b*	r^2
Sex	.05	<.01	.06	<.01	.15****	.03	.20****	.04	.16****	.03
Grade	-.06*	<.01	.25****	.07	-.11***	.02	.01	<.01	.01	<.01
School Econ. Level	-.01	<.01	.14**	.02	.16****	.02	.13**	.01	.11**	.01
Ethnicity										
African-American	.02	<.01	-.16**	.02	-.09	<.01	-.02	<.01	-.09	<.01
Hispanic-American	<.01	<.01	-.12**	.01	-.14**	.01	-.04	<.01	-.14**	.01
Parent Support	.10**	.01	.18****	.04	.16****	.03	.11**	.01	.17****	.03
Friend Support	.02	<.01	.07	<.01	.10**	.01	.03	<.01	.06	<.01
Parent Attitude	.23****	.06	.15****	.03	.09*	.01	.05	<.01	.10**	.01
Friend Attitude	.46****	.22	<.01	<.01	.04	<.01	.14****	.02	.13***	.02
Significant Interactions										
Fr. Support X Fr.Att.							.08*	.01		
Sex X Par. Att.	.26**	.01								
Sex X Fr. Att.							-.23*	.01		
Sex X Par. Support									-.25*	.01
Grade X Fr. Support			.10*	.01						
Grade X Par. Support	.09*	.01								
Sch. Level X Par. Sup.			.31**	.01	.42****	.02	.30**	.01	.23*	.01
Sch. Level X Fr. Sup.							-.25*	.01	-.23*	.01
Af. Am. X Friend Sup.			.13**	.01			.11*	.01	.14**	.01
Hispanic X Par. Sup.			.18**	.01	.15*	.01				
Hispanic X Fr. Sup.			.11*	.01	.13*	.01	.11*	.01	.10*	.01

Note. *b* = standardized beta weight; r^2 = the proportion of variance accounted for by each predictor.
****$p < .0001$***$p < .001$; **$p < .01$; *$p < .05$.

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